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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
PATEL, ASHOKKUMAR B	

ART UNIT	PAPER NUMBER
2154	

DATE MAILED: 09/14/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/074,264	DAMLE ET AL.	
	Examiner	Art Unit	
	Ashok B. Patel	2154	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *01 August 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-37* is/are pending in the application.

4a) Of the above claim(s) *12 and 23* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-11, 13-22 and 24-37* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1-37 are subject to examination. Claims 12 and 23 are cancelled.

Continued Examination Under 37 CFR 1.114

2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 08/01/2006 has been entered.

Response to Arguments

3. Applicant's arguments with respect to claims 1-11, 13-22 and 24-37 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1-6, 9-11, 13-18, 20-22, 24-28, 30-34, 36 and 37 are rejected under 35 U.S.C. 102(e) as being anticipated by Su et al. (hereinafter SU) (US 6, 625, 161 B1)

Referring to claim 1,

Su teaches a method for transporting information over a network comprising:

decomposing an input datastream (Fig.2, element 13, col. 3, line 61-63, "In one embodiment, the interconnection cable 13 is a single high bandwidth fiber optic cable.") into a plurality of sub-streams (col. 4, line 26-36, "The adaptive network device 17 appropriately selects or determines a parallel communication channel by which to send received data packets. In one embodiment, the adaptive network device 17 receives a continuous stream of data packets. As data packets arrive or are received, the adaptive network device groups the data packets into one or more single units or traffic aggregates. Thus, a traffic aggregate refers to an aggregation of continuous traffic flow, i.e., continuous streams of data packets. These traffic aggregates are individually assigned to the parallel communication channels selected by the adaptive network device 17."), wherein said decomposing comprises placing a portion of the input datastream into one of a plurality of queues (col. 4, line 36-48, "A first, second and third queue 117A-C are each individually coupled to the first, second and third parallel communication channels, respectively. The traffic aggregates assigned to a specific parallel communication channel are temporarily stored in the queue associated with the given parallel communication channel. When the parallel communication channel becomes available to service the traffic aggregates stored in its respective queue, the packets of the traffic aggregates are transferred from the queue to the respective parallel communication channel. These traffic aggregates are then forwarded to a network that is coupled to the first, second and third parallel communication channels 115A-C."), and

each queue of the plurality of queues corresponds to a corresponding channel of a plurality of channels (col. 4, line 36-48, "A first, second and third queue 117A-C are each individually coupled to the first, second and third parallel communication channels, respectively. The traffic aggregates assigned to a specific parallel communication channel are temporarily stored in the queue associated with the given parallel communication channel. When the parallel communication channel becomes available to service the traffic aggregates stored in its respective queue, the packets of the traffic aggregates are transferred from the queue to the respective parallel communication channel. These traffic aggregates are then forwarded to a network that is coupled to the first, second and third parallel communication channels 115A-C."); and

communicating said sub-streams between a first network element and a second network element of said network by transporting each one of said sub-streams over the corresponding channels (col. 4, line 7-9, "Connecting the first network 11A to the second network 11B is an adaptive network device 17."), wherein

a transmission rate of said input datastream is greater than (Fig.2, element 13, col. 3, line 61-63, "In one embodiment, the interconnection cable 13 is a single high bandwidth fiber optic cable.") a maximum transmission rate of any one of said channels (col. 10, line 49-54, "The communication channels 91A-C represent parallel low bandwidth communication channels, such as a fiber optic cable of OC-1 level. Therefore, as data is transferred in through network interface device 81, data is quickly being transferred out through parallel communication channels 91A-C.") **Referring to claims 2 and 14,**

Su teaches the method of claim 1, wherein each of said channels is an optical channel (col. 10, line 49-54, "The communication channels 91A-C represent parallel low bandwidth communication channels, such as a fiber optic cable of OC-1 level. Therefore, as data is transferred in through network interface device 81, data is quickly being transferred out through parallel communication channels 91A-C.")

Referring to claims 3 and 15,

SU teaches the method of claim 2, wherein each of said optical channels corresponds to a wavelength (col. 10, line 49-54, "The communication channels 91A-C represent parallel low bandwidth communication channels, such as a fiber optic cable of OC-1 level. Therefore, as data is transferred in through network interface device 81, data is quickly being transferred out through parallel communication channels 91A-C.")

Referring to claims 4 and 16,

SU teaches the method of claim 1, wherein said each one of said sub-streams has a transmission rate that is equal to or less than a maximum transmission rate of a corresponding one of said channels. (col. 10, line 49-54, "The communication channels 91A-C represent parallel low bandwidth communication channels, such as a fiber optic cable of OC-1 level. Therefore, as data is transferred in through network interface device 81, data is quickly being transferred out through parallel communication channels 91A-C.")

Referring to claim 5,

Su teaches the method of claim 1, further comprising: assembling said sub-streams into a reconstructed output datastream. (col. 10, line 49-54).

Referring to claims 6 and 17,

Su teaches the method of claim 5, wherein said assembling comprises: placing a portion of each of said substreams in a queue, wherein said reconstructed output datastream is output by said queue.(col. 10, line 49-54, col. 4, line 30-33, "As data packets arrive or are received, the adaptive network device groups the data packets into one or more single units or traffic aggregates." Please note that the adaptive network device also delivers packets that are received or arrived. And the delivery of the received packets is "output by queue" wherein a queue contains "a portion of sub-stream .").

Referring to claims 9, 10, 20 and 21,

Su teaches the method of claim 1, wherein said network is an existing network, and the method of claim 1, wherein said network comprises an underlying network infrastructure, and the method is performed without alteration of said underlying network infrastructure. (col. 3, line 43-56, "Similarly, a second network 11B comprises a second group of computing devices 21a-d interconnected together through second network cables 25a-d and a second network device 27. As the first network 11A represents a wide area network, the second network 11B, in one embodiment, also represents a wide area network. In alternative embodiments, the second network 11B is a local area network or an intranet. In another embodiment, the first and second network 11A,B are segments or portions of a larger network such as the Internet. Furthermore, the topologies of the first network 11A and the second network 11B are illustrated as a bus

topology and a star topology, respectively. However, in other embodiments, other topologies of the first and second networks 11A,B are used.").

Referring to claims 11 and 22

Su teaches the method of claim 10, wherein said network comprises a fiber-optic system. (col. 10, line 49-54,

Referring to claim 13,

Su teaches a method for receiving information transported over a network comprising:

receiving a plurality of sub-streams (col. 10, line 49-54, col. 4, line 30-33, "As data packets arrive or are received, the adaptive network device groups the data packets into one or more single units or traffic aggregates." Please note that the adaptive network device also delivers packets that are received or arrived. And the delivery of the received packets is "output by queue" wherein a queue contains "a portion of sub-stream ."), wherein

said sub-streams are created by decomposing an input datastream (Fig.2, element 13, col. 3, line 61-63, "In one embodiment, the interconnection cable 13 is a single high bandwidth fiber optic cable.") into said sub-streams (col. 4, line 26-36, "The adaptive network device 17 appropriately selects or determines a parallel communication channel by which to send received data packets. In one embodiment, the adaptive network device 17 receives a continuous stream of data packets. As data packets arrive or are received, the adaptive network device groups the data packets into one or more single units or traffic aggregates. Thus, a traffic aggregate refers to an

aggregation of continuous traffic flow, i.e., continuous streams of data packets. These traffic aggregates are individually assigned to the parallel communication channels selected by the adaptive network device 17."), wherein

said decomposing comprises placing a portion of the input datastream into one of a plurality of queues queues (col. 4, line 36-48, "A first, second and third queue 117A-C are each individually coupled to the first, second and third parallel communication channels, respectively. The traffic aggregates assigned to a specific parallel communication channel are temporarily stored in the queue associated with the given parallel communication channel. When the parallel communication channel becomes available to service the traffic aggregates stored in its respective queue, the packets of the traffic aggregates are transferred from the queue to the respective parallel communication channel. These traffic aggregates are then forwarded to a network that is coupled to the first, second and third parallel communication channels 115A-C."), and

each queue of the plurality of queues corresponds to a corresponding channel of a plurality of channels (col. 4, line 36-48, "A first, second and third queue 117A-C are each individually coupled to the first, second and third parallel communication channels, respectively. The traffic aggregates assigned to a specific parallel communication channel are temporarily stored in the queue associated with the given parallel communication channel. When the parallel communication channel becomes available to service the traffic aggregates stored in its respective queue, the packets of the traffic aggregates are transferred from the queue to the respective parallel communication

channel. These traffic aggregates are then forwarded to a network that is coupled to the first, second and third parallel communication channels 115A-C."); and

each of said sub-streams is transported over said network on the corresponding channels (col. 4, line 7-9) and

a transmission rate of said input datastream is greater than (Fig.2, element 13, col. 3, line 61-63, "In one embodiment, the interconnection cable 13 is a single high bandwidth fiber optic cable.") a maximum transmission rate of any one of said channels (col. 10, line 49-54, "The communication channels 91A-C represent parallel low bandwidth communication channels, such as a fiber optic cable of OC-1 level. Therefore, as data is transferred in through network interface device 81, data is quickly being transferred out through parallel communication channels 91A-C.") and assembling said sub-streams into a reconstructed output datastream (col. 4, line 30-33, "As data packets arrive or are received, the adaptive network device groups the data packets into one or more single units or traffic aggregates." Please note that the adaptive network device also delivers packets that are received or arrived. And the delivery of the received packets is "output by queue" wherein a queue contains "a portion of sub-stream .")

Referring to claim 18,

Su teaches the method of claim 13, further comprising: decomposing said input datastream into said sub-streams; and transporting said each of said sub-streams over said network on said corresponding one of a plurality of channels. (col. 10, line 49-54, "The communication channels 91A-C represent parallel low bandwidth communication

channels, such as a fiber optic cable of OC-1 level. Therefore, as data is transferred in through network interface device 81, data is quickly being transferred out through parallel communication channels 91A-C.")

Referring to claim 24,

Claim 24 is a claim to an apparatus for carrying t out the method of claim 1. Therefore claim 24 is rejected for the reasons set forth for claim 1.

Referring to claims 25 and 31,

Claims 25 and 31 are claims to an apparatus for carrying t out the method of claim 2. Therefore claims 25 and 31 are rejected for the reasons set forth for claim 1.

Referring to claims 26 and 32,

Claims 26 and 32 are claims to an apparatus for carrying t out the method of claim 3. Therefore claims 26 and 32 are rejected for the reasons set forth for claim 3.

Referring to claims 27 and 33,

Claims 27 and 33 are claims to an apparatus for carrying t out the method of claim 4. Therefore claims 27 and 33 are rejected for the reasons set forth for claim 4.

Referring to claim 28,

Su teaches the apparatus of claim 24, further comprising a second sub-stream management device, comprising: an output configured to output a reconstructed output datastream, and a plurality of inputs, wherein each of said inputs is configured to receive one of said sub- streams; and an underlying network infrastructure, communicatively coupled to said first and said second sub-stream management devices, and comprising said channels. (col. 4, line 30-33, "As data packets arrive or

are received, the adaptive network device groups the data packets into one or more single units or traffic aggregates." Please note that the adaptive network device also delivers packets that are received or arrived. And the delivery of the received packets is "output by queue" wherein a queue contains "a portion of sub-stream .")

Referring to claim 30,

Claim 30 is a claim to an apparatus for carrying t out the method of claim 13. Therefore claim 30 is rejected for the reasons set forth for claim 13.

Referring to claim 34,

Su teaches the apparatus of claim 30, further comprising a second sub-stream management device, comprising an input configured to receive said input datastream, and a plurality of outputs, wherein each of said outputs is configured to output one of said sub-streams; and an underlying network infrastructure, communicatively coupled to said first and said second sub-stream management devices, and comprising said channels. (col. 4, line 30-33, "As data packets arrive or are received, the adaptive network device groups the data packets into one or more single units or traffic aggregates." Please note that the adaptive network device also delivers packets that are received or arrived. And the delivery of the received packets is "output by queue" wherein a queue contains "a portion of sub-stream .")

Referring to claim 36,

Su teaches the method of Claim 1 wherein selecting the selected one of a plurality of channels comprises: using a simple round-robin technique to choose an available one of the plurality of channels. (col. 6, line 57-61)

Referring to claim 37,

Claim 37 is a claim to an apparatus for carrying t out the method of claim 36. Therefore claim 37 is rejected for the reasons set forth for claim 36.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claims 7, 8, 19, 29 and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Su et al. (hereinafter SU) (US 6, 625, 161 B1) in view of Shaunfield (US 5, 867, 484)

Referring to claims 7, 8 and 19,

Keeping in mind the teachings of the reference Su as stated above, the reference Su fails to explicitly teach performing compression on a one of said sub-streams and performing protocol processing on said input datastream ; and performing protocol processing on said reconstructed output datastream, wherein said protocol processing is performed using a protocol processor comprising a protocol stack.

Shaunfield teaches in col. 2, lines 6-20, "The low cost compression coupled with new switching capabilities of SONET/SDH now allow a switch base distribution system for video signals."(performing compression on a one of said datastreams) Also, the reference teaches in col. 16, lines 38-50 "The optical bus controller 120 includes an

optical/electrical interface 150, comprising a photo detector circuit 152 for converting the incoming optical signals on the downstream fiber 24a to corresponding serial electrical signals on line 156. The electrical signals on the serial data line 156 correspond identically to the optical signals on the serial downstream fiber 24a. The optical/electrical interface 150 also includes a laser driver and corresponding circuits 154 for converting the serial electrical signals on line 158 to corresponding optical signals on the output downstream fiber 14a. The interface 150 is of conventional design, where the laser driver 154 includes temperature, aging and other compensation circuits well known in the art." (performing protocol processing on said datastream ; and performing protocol processing on said reconstructed datastream, wherein said protocol processing is performed using a protocol processor comprising a protocol stack.)

Therefore, it would have been obvious for one having ordinary skill in the art at the time the invention was made to employ the technique and the means of Shaunfield to the system of Su such that the datastream can be compressed and the electrical datastream be converted to optical datastream for transmission on optical fiber and optical reconstructed datastream be converted to electrical datastream. It would have been obvious for the reasons that are already taught by Shaunfield along with the teachings.

Referring to claims 29 and 35,

Keeping in mind the teachings of the reference Su as stated above, Su fails to explicitly teach a first protocol processor, coupled to said input; and a second protocol

processor, coupled to said output and wherein the first and second protocol processors each comprise a protocol stack.

Shaunfield teaches in col. 16, lines 38-50 "The optical bus controller 120 includes an optical/electrical interface 150, comprising a photo detector circuit 152 for converting the incoming optical signals on the downstream fiber 24a to corresponding serial electrical signals on line 156. The electrical signals on the serial data line 156 correspond identically to the optical signals on the serial downstream fiber 24a. The optical/electrical interface 150 also includes a laser driver and corresponding circuits 154 for converting the serial electrical signals on line 158 to corresponding optical signals on the output downstream fiber 14a. The interface 150 is of conventional design, where the laser driver 154 includes temperature, aging and other compensation circuits well known in the art." (a first protocol processor, coupled to said input; and a second protocol processor, coupled to said output and wherein the first and second protocol processors each comprise a protocol stack.)

Therefore, it would have been obvious for one having ordinary skill in the art at the time the invention was made to employ the technique and the means of Shaunfield to the system of Su such that the datastream can be compressed and the electrical datastream be converted to optical datastream for transmission on optical fiber and optical reconstructed datastream be converted to electrical datastream. It would have been obvious for the reasons that are already taught by Shaunfield along with the teachings.

Conclusion

Examiner's note: Examiner has cited particular columns and line numbers in the references as applied to the claims above for the convenience of the applicant. Although the specified citations are representative of the teachings of the art and are applied to the specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested from the applicant in preparing responses, to fully consider the references in entirety as potentially teaching all or part of the claimed invention, as well as the context of the passage as taught by the prior art or disclosed by the Examiner.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ashok B. Patel whose telephone number is (571) 272-3972. The examiner can normally be reached on 8:00am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John A. Follansbee can be reached on (571) 272-3964. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Abp
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